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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/533,563	11/09/2005	Takeyoshi Dohi	NAG-0126	4025
23353 7590 04/14/2009 RADER FISHMAN & GRAUER PLLC LION BUILDING 1233 20TH STREET N.W., SUITE 501 WASHINGTON, DC 20036				
EXAMINER				
TAYLOR III, LEANDER THOMAS				
ART UNIT		PAPER NUMBER		
3734				
MAIL DATE		DELIVERY MODE		
04/14/2009		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.



# Office Action Summary

**Application No.**

10/533,563

**Applicant(s)**

DOHI ET AL.

**Examiner**

LEANDER TAYLOR III

**Art Unit**

3734

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 03 May 2005.  
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-10 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1,2,4,5 and 7-10 is/are rejected.  
7) ☒ Claim(s) 3 and 6 is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
10) ☒ The drawing(s) filed on 03 May 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☒ Information Disclosure Statement(s) (PTO/S508)  
Paper No(s)/Mail Date 05/03/2005  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_  
5) ☐ Notice of Informal Patent Application  
6) ☐ Other: \_\_\_\_\_



## DETAILED ACTION

### *Priority*

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### *Claim Rejections - 35 USC § 112*

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 9 and 10 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Regarding claim 9: Claim 9 includes the limitations "or similar apparatus" and "optimum system". It is noted that such statements would include within its scope all apparatus and systems discovered, both present and future, and hence includes within its scope apparatus and systems that have not been disclosed in the instant specification.

Regarding claim 10: Claim 10 includes the limitation "or similar device". It is noted that such a statement would include within its scope all devices discovered, both



present and future, and hence includes within its scope devices that have not been disclosed in the instant specification.

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 1-10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The claims are generally narrative and indefinite, failing to conform with current U.S. practice. They appear to be a literal translation into English from a foreign document and are replete with grammatical and idiomatic errors. For example:

Claim 1 recites the limitation "the multiple frames" in lines 1 and 2. There is insufficient antecedent basis for this limitation in the claim.

Claim 2 recites the limitation "the first, the second, and the third frames" in line 2. There is insufficient antecedent basis for this limitation in the claim.

Claim 2 recites the limitation "first and second rotary shafts" in line 4. There is insufficient antecedent basis for this limitation in the claim. No first and second rotary shafts are disclosed in claim 1.

Claim 3 recites the limitation "first pin" in line 3 and "first slot" in line 5. There is insufficient antecedent basis for this limitation in the claim. No pins or slots are disclosed in claims 1 or 2.



Claim 6 recites the limitation "first pin" in line 3 and "first slot" in line 5. There is insufficient antecedent basis for this limitation in the claim. No pins or slots are disclosed in claims 4 or 5.

The claims are replete with antecedent errors, of which the above are a few examples. Applicant should reread the claims and fix any and all errors found therein.

### ***Claim Rejections - 35 USC § 102***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

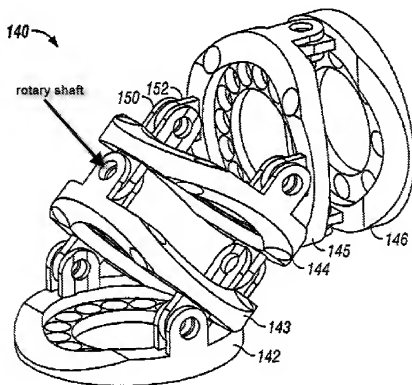
(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. **Claims 1, 2, 4, 5, and 7-10, as best understood, are rejected under 35 U.S.C. 102(e) as being anticipated by Cooper et al (US Patent Application Publication 2003/0036748 A1).**

Regarding claims 1, 2, 4, and 5: Cooper et al disclose a MDOF bending mechanism (fig. 16) with a multi-slider linkage mechanism comprising two 1-DOF bending mechanisms with a multi-slider linkage mechanism in which, in each of said bending mechanisms, multiple frames 142, 143, 144, 145, and 146 are arrayed linearly and each frame is mounted to be rotatable on the adjacent frame about a rotary shaft (fig. 16; each frame rotates on ; drive links and restraining links (actuation cables;



paragraphs [0020] and [0025]) are mounted to be rotatable on one side and on the other side of the frames as viewed from the rotary shaft (fig. 16; each frame comprises at least 2 rotary shafts; rotary shafts labeled by Examiner), respectively; said drive links are slid by power (paragraph [0025]) in the serial direction to effect the bending motion of the multiple frames; and said two 1-DOF bending mechanisms with a multi-slider linkage mechanism are connected to each other with a phase difference of 90 degrees to effect MDOF bending motion (paragraph [0124]).



**FIG. 16**



Regarding claim 7: Each frame has a large through-hole at the center and multiple smaller through holes arranged around the circumference of the central through hole (fig. 16).

Regarding claim 8: The cables for vertical bending and horizontal bending are alternately installed in the through-holes around the circumference of the central through-hole (fig. 56 and paragraphs [0025] and [0026]) and manipulation equipment is set in the central through-hole (fig. 56 and paragraph [0027]).

Regarding claim 9: The assembly is controlled by a hydraulic actuator (paragraph [0137]) and coupled by a robotic telesurgical system (paragraph [0140]). It is the

Regarding claim 10: Cooper et al disclose that the telesurgery system is controlled by a surgeon at a computer work station (paragraph [0016]).

***Allowable Subject Matter***

8. Claims 3 and 6 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

There is no suggestion in the prior art for a bending mechanism wherein the drive links and restraining links are connected to each other by pins in the specific structure taught by claims 3 and 6, specifically where the bottom of one link is connected to the top of the next link and the pins are fitted into slots.



***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LEANDER TAYLOR III whose telephone number is (571)270-7492. The examiner can normally be reached on Monday - Friday: 7:30am - 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Todd Manahan can be reached on 571-272-4713. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/LTT/

/Todd E Manahan/

Supervisory Patent Examiner, Art Unit 3734